APPLICATOR DEVICE FOR PAINT AND SURFACE COATINGS

The following claims priority from a United States provisional patent application 60/538,872, filed 22 January 2004 to the same inventor.

TECHNICAL FIELD

The present invention relates generally to applicators and more specifically to hand held devices adapted for the application of paint, lacquers and other liquid coatings to a variety of surfaces.

BACKGROUND ART

Many different versions of applicators have been devised to apply paint and other coatings to various surfaces. Most commonly used are brushes of various sizes, textures and materials. However, other methods, such as sprayers, rollers and other devices have been utilized in attempts to efficiently and quickly apply paint, stains, lacquers and the like to various types of surface.

Some surfaces, such as wrought iron fences and chair legs, pose particular problems. The irregular surfaces and gaps frustrate most attempts to coat these. Sprays are quick and provide even coverage, but waste the great majority of the paint. Rollers and brushes are slow and often leave gaps. Sheepskin mittens are messy and require substantial cleaning. Nothing available works well for these applications.

Numerous other applications also exist where it is desirable to provide an inexpensive and efficient device for applying coatings in manners which differ from conventional methods. Accordingly, a need remains for new approaches and applicator devices.

DISCLOSURE OF INVENTION

Accordingly, it is an object of the present invention to provide a paint and liquid coating applicator which is easy to use and inexpensive.

Another object of the invention is to provide a disposable applicator for single use jobs.

A further object of the invention is to provide an improved mechanism for applying protectants, cleaners, and the like for automobile interior and exterior detailing.

Yet another object of the invention is to provide a flexible yet accurate device for applying paint to irregular surfaces.

It is still another object of the invention to provide an applicator which readily conforms to irregular surfaces and applies coatings in a precise manner.

Briefly, one preferred embodiment of the present invention is an applicator device which is adapted for single use, disposable purposes. The applicator is a flexible liquid-proof glove which is provided with a layer of painter's foam on the front and side finger surfaces, as well as on the palm. The relatively thin layer of painter's foam absorbs and releases liquid coatings, such as paints and stains, in a controlled manner. The flexible glove applicator allows the painter to precisely apply the coating in a controlled manner.

An advantage of the present invention is that the applicator glove permits rapid and precise application of coatings to irregular surfaces.

Another advantage of the present invention is that the poly foam material retains the coating liquid without dripping or splattering until applied by hand pressure to the desired surface.

A further advantage of the invention is that the painters glove retains about twenty times the volume of coating liquid than a typical brush, thus cutting time and effort.

Still another advantage of the present invention is that the applicator glove is very flexible and can be manipulated precisely to apply painted figures such as straight lines and to quickly coat precise features such as door frames.

A further advantage of the present invention is that the applicator gloves can be very inexpensively manufactured so that they may be used disposably, thus eliminating clean-up time and effort.

These and other objects and advantages of the present invention will become clear to those skilled in the art in view of the description of the best presently known modes of carrying out the invention and the industrial applicability of the preferred embodiments as described herein and as illustrated in the several figures of the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The purposes and advantages of the present invention will be apparent from the following detailed description in conjunction with the appended drawings in which:

Fig. 1 is a perspective view of an applicator glove according to the present invention, shown in use in applying coating to a selected surface;

Fig. 2 is a stylized plan view of the palm side of the applicator glove of the present invention;

Fig. 3 is a stylized plan view of an applicator glove according to the present invention, showing the back surface of the hand portion; and

Fig. 4 is a cross-sectional view taken through one of the finger portions shown in Figs. 2 and 3.

BEST MODE FOR CARRYING OUT THE INVENTION

A preferred embodiment of the present invention is a device adapted for applying paint, stains, lacquers, plastic, vinyl, rubber, protectants or other coatings to a variety of surfaces. As illustrated in the various drawings herein, a form of this preferred embodiment of the inventive device is an applicator glove designated by the general reference character

10. The invention is intended to be worn on a user's hand while being utilized to apply the coating (usually paint).

As illustrated in the views of Figs. 1, 2 and 3, the basic applicator glove device 10 includes a base glove 12 which is characterized by having a wrist portion 14, a palm portion 16, a thumb portion 18, and first through fourth finger portions 20, 22, 24 and 26, respectively (see Figs. 2 and 3). The glove 12 is preferably unitarily constructed so all of the portions are seamlessly connected together. The wrist portion 14 may be a possible exception, as this may be a fabric member attached in a seamed manner. The glove 12 may also be considered to have a palm side 28 and a backhand side 30. The palm side 28 is illustrated particularly in Fig. 2, while the backhand side 30 is illustrated in Fig. 3.

The unitary glove 10 is optimally constructed of waterproof materials (such as vinyl or polypropylene) so that the user's hand is not affected by whatever choice of coating liquid 32 is selected for application to a desired surface 34, such as the knurled wrought iron fence post illustrated in Fig. 1. The wrist portion 14, again, may be a stretchable fabric or the like, for comfort.

The palm side 28 of the applicator 10 is provided with a foam layer 36. Since most users prefer to use the palm side surface of their hands and fingers for application work, it is logical to place the foam layer 36 on the palm side 28.

The foam layer 36 is the same nature of painter's foam utilized in conventional foam paintbrushes. The preferred foam layer 36 is formed of black poly foam. The preferred embodiment 10 uses a foam layer having a thickness of 0.64 cm (1/4 inch). Varying thicknesses of foam layers 36 may be optimal for different types of coatings 32. For example, an applicator adapted for coarse application of paint may have a relatively thick foam layer of approximately 1.27 cm (1/2 inch) while a fine work application, for use on small objects or with delicate coatings 32, may have a lesser thickness of approximately 0.3

cm (1/8 inch). The thickness of the foam layer 36 determines how much of the coating liquid is retained in the foam during usage and indirectly determines the surface area which may be coated without returning to the source of coating liquid 32.

The foam layer 36 is adhered to the palm side 28 of the glove 12 by an adhesive 38 (shown in phantom in Fig. 4). The adhesive is selected to be unaffected by and insoluble in the types of coatings 32 (such as paints and lacquers) for which the invention is designed to be used. Typically, the adhesive selected will be 3M™ plastic foam adhesive. It is also conceivable that the foam layer 36 may be "welded" by melting onto the glove surface, or attached in some other fashion, but the adhesive approach is preferred.

It is considered highly desirable to have the foam layer 36 attached separately to each of the finger portions 20 through 26. This permits the user the maximum flexibility either to apply larger surface coatings by holding the fingers together, or to do fine work by using only a single finger during application. However, for some purposes it may be feasible to fuse the fingers together and utilize the concept as a painting mitt, as opposed to a glove.

Although standard paintbrush foam is the preferred material for the foam layer 36 it is envisioned that technological developments may occur in which additional materials may be substituted. The key features of the foam layer 36 are that the material readily accept and absorb coating liquids 32 in a fashion which allows ready release of the coating liquid 32 by pressure on the chosen surface 34. It is also important that little or no dripping of the liquid occurs when no pressure is applied. The foam layer is also expected to be inexpensive so that the applicator 10 will ordinarily be considered to be disposable and utilized for only a single job with a single type of coating. In this manner cleaning time and effort is minimized.

An alternate embodiment is visualized where the foam layer 36 is replaced with a layer of abrasive material. A scouring layer, such as a 3M ScotchBrite™ material may be substituted. An alternate glove of this structure could be used for preparing the surface ahead

of time and may be used either wet or dry. Such an embodiment would be reusable, unless actually used with coating material.

Another alternate embodiment would be to utilize a thicker base glove material with enhanced properties. One possible glove would be a Teflon or other acid resistant material to allow use with highly corrosive coating materials, while protecting the user's hand.

While various embodiments have been described above, it should be understood that they have been presented by way of example only, and not as limitation.

INDUSTRIAL APPLICABILITY

The present invention is adapted for use by professional and amateur painters. The user will purchase one or several of the applicator gloves 10 in an appropriate size to fit the hand(s) of the particular user. It is envisioned that both left and right hand versions will be available, and it may be that the gloves 10 will be distributed in pairs, but this is not required and many users will wish to use only a single hand.

The user will select the particular coating liquid 32 (usually paint) and/or surface protectants to apply to the surface and will array the coating 32 in a fashion where it is feasible to dip the glove 10 into the coating 32. The user will don the glove(s) 10 and dip the palm side 28 into the coating 32 until a sufficient degree of saturation is achieved. The properties of the foam layer 36 are such that only a certain amount of liquid is absorbed and it is difficult to over-saturate in a manner which results in dripping.

The user then simply applies the foam layer 36 portion of the glove 10 to the desired surface and the coating 32 will be squeezed or drawn out onto the surface 34 in a consistent manner. For larger, more uniform, surfaces the user may use broad strokes with the fingers close together to provide a wider application zone, while for finer work, such as door jambs, a single finger may be used to precisely apply to paint.

Once the user completes use of a particular type (or shade) of coating, the glove 10 is set aside or discarded and a new glove 10 is selected for the next type or color. The gloves 10 are inexpensive enough that it is ordinarily more efficient to discard and replace, than to attempt to clean the gloves for later use. The same glove 10 may be reused for later applications of the same type and shade of coating, but will often stiffen if not wrung out and stored properly in the interim. The foam material is possible to purge and clean for later use with other coatings, as well, but this requires effort and solvents. For water-based paints the gloves may be easily cleaned for re-use by dipping in soapy water for cleaning between jobs.

The inventive applicator devices are especially well suited for irregular surfaces, such as applying paint to wrought iron fences, or stain to chair legs and spokes, or protectants and cleaners for vehicle detailing. The applicator gloves are also well suited for standard painting applications where the direct reach of the user is sufficient to cover all of the desired territory. Fine detail work, such as door jambs and baseboards, are also appropriate uses, as single finger applications can handle detail work.

For the above, and other, reasons, it is expected that the applicator glove device of the present invention will have widespread industrial applicability. Therefore, it is expected that the commercial utility of the present invention will be extensive and long lasting.